

IN THE CLAIMS

Please amend claims 1, 7 and 13, as follows.

1           1.    **(Currently Amended)** A computer-based method for determining the optimum  
2   join sequence for processing a query having a plurality of tables from a relational database stored  
3   in an electronic storage device having a database management system, the method comprising  
4   the steps of:

5               (a) a first pass using simulation for determining an optimum join sequence for joining the  
6   plurality of tables from the query; and

7               (b) a second pass for using the optimum join sequence for creating a lowest cost access  
8   path plan for processing the query.

1           2.    **(Original)** The method according to claim 1, wherein the first pass performing  
2   successive steps until creation of a simulated composite table having all tables from the query,  
3   wherein each said step:

4               creating a set of miniplans for simulating all possible joins of a predetermined subset of  
5   the query tables; and

6               using a cost model calculations for estimating and saving the least expensive join from  
7   said set of joins, thereby determining the optimum join sequence.

1           3.    **(Original)** The method according to claim 2, wherein the first pass for each said  
2   miniplan storing a used table index, join method, and sorting data, and for each said least  
3   expensive join storing names of joined tables, join cost and possible row orderings.

1           4.    **(Original)** The method according to claim 3, wherein the first pass only storing  
2   non-redundant miniplan data, and saving partial results of the cost model calculations for future  
3   reuse.

1           5.    **(Original)** The method according to claim 1, wherein the second pass performing  
2   successive steps until creation of a simulated composite table having all tables from the query,  
3   wherein each said step being performed in the optimum join sequence.

1           6.    **(Original)** The method according to claim 1, wherein the query being a SQL  
2   query.

1           7.    **(Currently Amended)** A computer-based processor system for determining the  
2   optimum join sequence for processing a query having a plurality of tables from a relational  
3   database stored in an electronic storage device having a database management system, the  
4   system comprising:

5           means for performing a first pass using simulation for determining an optimum join  
6   sequence for joining the plurality of tables from the query; and

7           means for performing a second pass for using the optimum join sequence for creating a  
8   lowest cost access path plan for processing the query.

1        8.    (Original) The system according to claim 7, wherein the first pass means  
2        performing successive steps until creation of a simulated composite table having all tables from  
3        the query, wherein each said step:  
4                creating a set of miniplans for simulating all possible joins of a predetermined subset of  
5        the query tables; and  
6                using a cost model calculations for estimating and saving the least expensive join from  
7        said set of joins, thereby determining the optimum join sequence.

1        9.    (Original) The system according to claim 8, wherein the first pass means for each  
2        said miniplan storing a used table index, join method, and sorting data, and for each said least  
3        expensive join storing names of joined tables, join cost and possible row orderings.

1        10.   (Original) The system according to claim 9, wherein the first pass means only  
2        storing non-redundant miniplan data, and saving partial results of the cost model calculations for  
3        future reuse.

1        11.   (Original) The system according to claim 7, wherein the second pass means  
2        performing successive steps until creation of a simulated composite table having all tables from  
3        the query, wherein each said step being performed in the optimum join sequence.

1        12.   (Original) The system according to claim 7, wherein the query being a SQL  
2        query.

1       13. **(Currently Amended)** A computer usable medium tangibly embodying a

2       program of instructions executable by the computer to perform a computer-based method for  
3       determining the optimum join sequence for processing a query having a plurality of tables from a  
4       relational database stored in an electronic storage device having a database management system,

5       the method comprising the steps of:

6               (a) a first pass using simulation for determining an optimum join sequence for joining the

7       plurality of tables from the query; and

8               (b) a second pass for using the optimum join sequence for creating a lowest cost access

9       path plan for processing the query.

1       14. **(Original)** The method according to claim 13, wherein the first pass performing

2       successive steps until creation of a simulated composite table having all tables from the query,

3       wherein each said step:

4               creating a set of miniplans for simulating all possible joins of a predetermined subset of

5       the query tables; and

6               using a cost model calculations for estimating and saving the least expensive join from

7       said set of joins, thereby determining the optimum join sequence.

1       15. **(Original)** The method according to claim 14, wherein the first pass for each said

2       miniplan storing a used table index, join method, and sorting data, and for each said least

3       expensive join storing names of joined tables, join cost and possible row orderings.

1        16.    **(Original)** The method according to claim 15, wherein the first pass only storing  
2        non-redundant miniplan data, and saving partial results of the cost model calculations for future  
3        reuse.

1        17.    **(Original)** The method according to claim 13, wherein the second pass  
2        performing successive steps until creation of a simulated composite table having all tables from  
3        the query, wherein each said step being performed in the optimum join sequence.

1        18.    **(Original)** The method according to claim 13, wherein the query being a SQL  
2        query.